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U. S. DEPARTMENT OF COMMERCE

WATCHING THE WEATHER MAN WITH UNCLE SAM.

The sixth in a series of ten talks by Welby R. Stevens, assistant forecaster, U. S. Weather Bureau, delivered through WRC and 32 other stations associated with the National Broadcasting Company, at 1:10 p.m., Eastern Standard Time, Thursday, January 16, 1930.

On last Monday we said that the most important feature on the weather chart was the isobars. These lines locate the high and low pressure areas, which are roughly elliptical in form. It is absolutely necessary for the forecaster to know where the HIGHS and LOWS are located, because the ceaseless changes in our weather are due almost entirely to their approach and passage and the winds which attend them.

The meteorologist uses a variety of terms to designate a low pressure area, such as LOW, depression, disturbance, or cyclone. Contrary to popular public opinion "cyclone" is not the proper name for a severe wind storm and is often used to indicate a tornado. Only rarely are the winds in a cyclone destructive, while in a tornado they are always destructive.

A cyclone or LOW is of wide extent. On the average they have diameters between 600 and 1000 miles, but sometimes they may be as large as 2000 miles in diameter. They usually move from some westerly to some easterly point. Except in a certain portion of the disturbance, the wind does not blow in the same direction that the LOW is moving. This is due to the fact that the surface winds circulate around the LOW. The circulation is counterclockwise in the Northern Hemisphere and clockwise in the Southern, with the winds blowing spirally inward toward the center. In the Northern Hemisphere the temperature to the south and east of the LOW is comparatively high because in those portions the winds are from some southerly quarter. On the west side the temperature is comparatively low for the wind is from some northerly direction.

Clouds are almost entirely lacking on the west side but generally extend far out to the east. Rain is usually associated with LOWS; most of it occurs in the eastern half.

Just as two valleys are an impossibility without a hill or ridge of land between them, in the same way two areas of low pressure cannot exist without a region of higher pressure between. These regions of high pressure in many ways stand in sharp contrast with the LOWS and have many characteristics which are exactly opposite.

The wind circulation around a HIGH is clockwise in the Northern Hemisphere and just the reverse in the Southern, with the winds blowing spirally outward. In them but few clouds are to be seen and precipitation is usually lacking. With the advance of a HIGH there is a decided drop in temperature in the eastern portion where, in the Northern Hemisphere, the winds are from the north. After the center of the HIGH has passed there is a decided rise in temperature on the western side where the winds are southerly.

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There is a very definite relation between pressure and wind direction, which was formulated into a law almost a century ago. This law proved to be very valuable to mariners in avoiding dangerous storms. It states: If you stand with your back to the wind, the region of low pressure will be to the left in the Northern Hemisphere and to the right in the Southern.

It must be remembered that the statements we have made in connection with HIGHS and LOWS apply only in a general way. Each individual HIGH and LOW has its own peculiar characteristics and it is a problem for the fore-caster to decide how each one is going to behave.

On next Monday we shall tell you more about the characteristics and importance of HIGHS and LOWS.